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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/711,508

09/23/2004

Ira Liao

VIAP0130USA

5507

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11/13/2006

NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION

P.O. BOX 506

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EXAMINER

BAE, JI H

ART UNIT

PAPER NUMBER

2115

DATE MAILED: 11/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/711,508

Applicant(s)

LIAO ET AL.

Examiner

Ji H. Bae

Art Unit

2115

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____  |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :11-30-05, 4-20-06, 4-24-06, 6-06-06, 6-29-06.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art [AAPA] in view of Weldon et al., U.S. Patent No. 6,956,922 B2.

Regarding claim 1, AAPA teaches a device comprising:

a pixel clock generator for generating a pixel clock [AAPA, Fig. 1, PCLK] having a number of cycles [pixel clock generator 130];

a frequency divider for generating a character clock [CCLK] according to the pixel clock [frequency divider 140];

and a logic unit [logic unit 110] for controlling the frequency divider to generate the character clock by dividing the number of cycles of the pixel clock.

AAPA does not teach that the pixel clock has a number of cycles that is a non-integer multiple of a first number during a predetermined period, and the division of the pixel clock by a first and second number during a first a second part of a predetermined period, respectively.

Weldon teaches a device for generating an internal clock signal by dividing a master clock by a non-integer value [Fig. 3, clock signal and output signal]. This is accomplished by dividing a master clock by a first value during a first interval and by a second value during a second interval [col. 2, lines 49-53].

It would have been obvious to one of ordinary skill in the art to combine the teachings of AAPA with Weldon by modifying AAPA to produce an internal clock signal by dividing a master

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clock by two different values, as taught by Weldon. Both AAPA and Weldon are directed towards frequency divider circuits. The teachings of Weldon would improve AAPA by providing a variable frequency divider which is able to generate a variety of clock frequencies, including those that are a non-integer multiple/divisor of the master clock frequency [Weldon, col. 1, lines 27-31, col. 2, lines 8-13].

Regarding claim 2, AAPA/Weldon teaches that the number of cycles of the character clock generated by the frequency divider is an integer  $[K, K+1 \text{ divisor}]$ , Weldon, col. 2, lines 50-53].

Regarding claim 3, it would have been obvious to one of ordinary skill in the art that the first number is a matter of design choice. Weldon use of the variables  $K$  and  $K+1$  for the divisors indicates that the values are arbitrary, and dependent upon the application.

Regarding claim 4, AAPA/Weldon teaches that the second number is the number of cycles of the pixel clock during the remaining part of the predetermined interval  $[K+1, \text{col. 2 lines 53-55}]$ .

Regarding claims 5-8, AAPA/Weldon teaches the device of claims 1-4. AAPA/Weldon also teaches the method implemented by the claimed device.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Kimura et al., U.S. Patent No. 6,686,780 B2;

Cho, U.S. Patent No. 6,041,093;

Smitt, U.S. Patent No. 5,640,465.

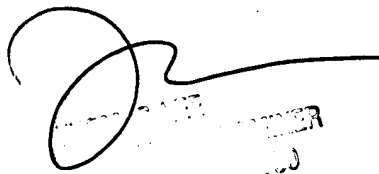
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ji H. Bae whose telephone number is 571-272-7181. The examiner can normally be reached on Monday-Friday, 10 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on 571-272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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